Determining Dominant Wind Directions

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Summary

In this paper we address the problem of selecting a ser of wind directions that could represent the wind regime at a location. This problem is cast in the form of a non-convex mathematical program. Important properties of the problem are discussed and a convergent solution algorithm is designed. The algorithm could yield local optimal solutions. A case study which involves the construction of a transition probability matrix for the wind at a location is presented.

References:

1. ALGHASSEB M, 1993, THESIS KING FAHD U P
2. BARR RS, 1977, MATH PROGRAM, V13, P1
3. CERNY V, 1985, OPTIMIZATION THEORY, V45, P45
4. COOPER L, 1963, OPER RES, V11, P331
5. COOPER L, 1964, J REGIONAL SCI, V7, P1
6. COOPER L, 1964, SIAM REV, V6, P37
7. EILON S, 1970, DISTRIBUTION MANAGEM
8. FRANCIS RL, 1993, FACILITY LAYOUT LOCA
9. GRIBOV AN, 1983, VESTNIK LENINGARD U, V11, P249
10. HUANG JC, 1983, 1983 P OIL SPILL C W, P313
11. KIRKPATRICK S, 1983, SCIENCE, V220, P671
12. KUENNE RE, 1972, MATH PROGRAM, V3, P193
13. LOVE RF, 1982, J OPER RES SOC, V33, P443
14. SELIM SZ, 1991, PATTERN RECOGN, V24, P1003
15. SPAULDING ML, 1988, OIL CHEM POLLUT, V4, P39
16. VANLAARHOVEN PJM, 1987, SIMULATED ANNEALING